

*abstract*

## **Evaluation of Changes in Nutritional Status of Pediatric Patients with Acute Lymphoblastic Leukemia during Chemotherapy**

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## Evaluation of Changes in Nutritional Status of Pediatric Patients with Acute Lymphoblastic Leukemia during Chemotherapy

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**Introduction:** Prevalence of malnutrition among children with cancer is reported to be as high as 75% and this has been associated with greater abandonment, treatment-related toxicity and mortality. This study describes the changes in nutritional status of pediatric patients with Acute Lymphoblastic Leukemia (ALL) seen at the Philippine General Hospital.

**Methodology:** A retrospective, descriptive review of the medical records of pediatric patients with ALL seen between January 2021 to December 2023 was done. Anthropometric measurements which include weight, height and body mass index were used. Association between the changes in nutritional status during the intensive phase of chemotherapy and occurrence of febrile neutropenia, sepsis and pneumonia were also analyzed.

**Results:** 82 patients were included in the study with a male:female ratio of 1.16:1 and a median age of diagnosis of 4 years old (range 1-18). At diagnosis, 87.8% had normal nutritional status followed by being overweight (6.1%), severely wasted (2.4%), moderately wasted (2.4%) and obese (1.3%). During treatment, overweight patients peaked at the end of the remission-induction phase (14.6% vs 6.1% at diagnosis) and the prevalence of obesity steadily increased from diagnosis to the end of intensive phase of treatment (1.2% at TP1 to 5.6% at TP4). Cancer cachexia did not show significant association with the number of admissions for sepsis (OR=0.9, 95%CI=0.3 to 3.0, p=0.920) and pneumonia (OR=0.5, 95%CI=0.2 to 1.3, p=0.187). Nutritional status in our cohort did not correlate with treatment abandonment, disease relapse and mortality.

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**Conclusion:** This study provided data about the baseline nutritional status and changes encountered during the intensive phase of chemotherapy for pediatric patients with ALL. Majority of our patients have normal nutritional status at baseline however an increased rate of obesity was observed during the intensive phase of treatment. Our study did not observe a significant association between nutritional status and disease morbidities.